

PE NUMBER: 0101120F

UNCLASSIFIED

PE TITLE: Advanced Cruise Missile

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)								DATE February 1999		
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0101120F Advanced Cruise Missile						
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	2,314	0	688	785	980	783	684	586	Continuing	Continuing
3844 Advanced Cruise Missile	2,314	0	0	0	0	0	0	0	0	2,314
4798 Life Extension Study	0	0	688	785	980	783	684	586	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0	0

(U) A. Mission Description
 (U) The Advanced Cruise Missile (ACM) is a low-observable, air-launched, strategic missile with significant improvements over the Air Launched Cruise Missile B version (ALCM-B) in range, accuracy, and survivability. Armed with a W80 warhead, it is designed to evade air and ground-based defenses in order to strike heavily defended, hardened targets at any location within any enemy's territory. The ACM is designed for B-52H external carriage. Missile procurement is complete. Service Life Extension Plan (SLEP) calls for fuel bladder replacement starting in FY00.

(U) B. Budget Activity Justification
 (U) These programs are in budget activity 7, Operational System Development, depot development and life extension studies. AF Long Range Plan requires ACM to extend beyond design life (FY02). SLEP requires studies to determine what components can be sustained or need to be replaced to extend to FY30.

Page 1 of 10 Pages
Exhibit R-2 (PE 0101120F)

UNCLASSIFIED

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2 Exhibit)

DATE

February 1999

BUDGET ACTIVITY

7 - Operational System Development

PE NUMBER AND TITLE

0101120F Advanced Cruise Missile(U) C. Program Change Summary

	FY 1998	FY 1999	FY 2000	FY 2001	Total Costs
(U) Previous President's Budget	2,314	0	0	0	2,314
(U) Appropriated Value	2,393				
(U) Adjustments to Appropriated Value					
(U) a. Cong Reductions	-79				
(U) b. SBIR					
(U) c. Omnibus or Other above Threshold Reprogram	-15				
(U) d. Below Threshold Reprogramming					
(U) Adjustments to Budget Years Since FY 1999		0	688	785	1,473
(U) Current Budget Submit/FY 2000 PB	2,314	0	688	785	1,473

UNCLASSIFIED

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 1999		
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0101120F Advanced Cruise Missile				PROJECT 3844		
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
3844 Advanced Cruise Missile	2,314	0	0	0	0	0	0	0	0	2,314

((U) A. Mission Description

(U) Develop Aging and Hardness Maintenance/Surveillance Capabilities at Depot. This project will evaluate the four critical components of ACM for aging and nuclear hardness to develop predicted life cycle replacement and repairs. Hardness Maintenance/Hardness Surveillance Program is scheduled for completion in 2nd Qtr FY00. The Hardness Maintenance/Hardness Surveillance Program includes the design, test, manufacture and demonstration of Automated Test Equipment (ATE) and Test Program Sets (TPS) to be in accordance with the Objective and Requirements Document (TIES 97-022). The TPSs will determine the condition of the Survivability/Vulnerability (S/V) components within the AGM-129 Umbilical Assy. and AFT Avionics Unit. **The Aging Surveillance project interrupted in FY98 due to lack of funding for completion.** The Aging and Surveillance Program is currently in the developmental phase and is an analytical type inspection process that will provide the necessary engineering tool to predict age out. This concept is designed to provide sufficient advanced notice to implement field retrofits prior to unacceptable degradation of the weapon system reliability and safety.

(U) FY 1998 (\$ in Thousands):

– (U) Develop Aging and Hardness Maintenance/Surveillance Capabilities at Depot
\$2,314

– (U) Total
\$2,314

(U) FY99-02 (\$ in Thousands):

((U) B. Project Change Summary

(U) Project completion reliant upon future funding. Project would be completed in FY02 is successfully funded in the FY02 – 05 POM.

Project 3844
Page 3 of 10 Pages
Exhibit R-2A (PE 0101120F)

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 1999	
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0101120F Advanced Cruise Missile					PROJECT 3844	
(U) C. <u>Other Program Funding Summary (\$ in Thousands)</u>											
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>	
(U) Weapon System Funding											
(U) Missile Procurement, AF											
(U) Aeronautical Vehicle (missile)	814	1395	1050	2024	2042	2061	2059	2188			
(U) Missile Modifications	0	0	2950	3435	3815	4096	4384	4578	23,258	23,258	
(U) Replen + Spare Parts	450	0	319	324	333	351	360	370	cont	cont	
(U) Initial Spares	0	0	0	1433	1594	2584	2893	458	8,962	8,962	
(U) D. <u>Acquisition Strategy</u> : Prime contract number: F41608-98-C-0485 modification P00006, sub-contract number: SB0681-98-802059 will be used to complete the acquisition of the AGM-129A (ACM) Aging and Surveillance program. The final step that will be accomplished involves the set up of a maintenance and surveillance capability for nuclear aging and hardness at the depot .											
(U) E. <u>Schedule Profile</u>											
	<u>FY 1998</u>			<u>FY 1999</u>		<u>FY 2000</u>		<u>FY 2001</u>			
1	2	3	4	1	2	3	4	1	2	3	4
(U) Depot Actions											
(U) Aging Programs Completion											
1 yr upon funds receipt											
(U) Hardness Programs Completion											
						X					
Project 3844											
Page 4 of 10 Pages											
Exhibit R-2A (PE 0101120F)											

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 1999				
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0101120F Advanced Cruise Missile					PROJECT 3844	
(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u>											
					<u>FY1998</u>	<u>FY1999</u>	<u>FY2000</u>	<u>FY2001</u>			
(U) Depot Activation											
(U) Surveillance					2,299	0	0				
(U) Total					2,299	0	0				
(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u>											
Performing Organizations:											
Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performin g Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1998</u>	Budget <u>FY 1998</u>	Budget <u>FY 1999</u>	Budget <u>FY 2000</u>	Budget <u>FY 2001</u>	Budget to <u>Complete</u>	Total <u>Program</u>
<u>Product Development Organizations</u>											
Hughes MSC											
Tucson, AZ	SS/FPIF	May 92	16,914	16,914	15,946	0	0	0	0	0	16,914
Kearfott											
Wayne, NJ	SS/FPIF	Aug 93	8,077	8,077	6,200	0	0	0	0	0	8,077
Rockwell											
Newark, OH	SS/CPAF	Jul 96	0	0	519	0	0	0	0	0	519
OC-ALC	Organic/PO	Oct 94/									
	Contact	Dec 96	0	0	3,135	0	0	0	0	0	3,135
OC-ALC/SA-ALC	Organic/PO	Apr 98	TBD	TBD	0	2,299	0	0		0	2,299
Engineering											
Spectrum	Contact	Dec 98									
<div style="display: flex; justify-content: space-between; margin-top: 20px;"> Project 3844 Page 5 of 10 Pages Exhibit R-3 (PE 0101120F) </div>											

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)		DATE
BUDGET ACTIVITY		
7 - Operational System Development		
PE NUMBER AND TITLE		PROJECT
0101120F Advanced Cruise Missile		3844
<u>Support and Management Organizations:</u> Not Applicable		
<u>Test and Evaluation Organizations:</u> Not Applicable		
Subtotal Product Development		
Subtotal Support and Management		
Subtotal Test and Evaluation		
Total Project		2,299
Project 3844		
Page 6 of 10 Pages		
Exhibit R-3 (PE 0101120F)		

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)								DATE February 1999		
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0101120F Advanced Cruise Missile				PROJECT 4798		
COST (\$ In Thousands)	FY 1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	Cost to Complete	Total Cost
4798 Life Extension Study	0	0	688	785	980	783	684	586	Continuing	Continuing

(U) A. Mission Description

(U) Based on the Air Force Long Range Plan, a Service Life Extension Plan (SLEP) was developed for the ACM. SLEP is to identify and evaluate risks in extending service life of ACM to 2030. Focus will be on the laser doppler and Inertial Navigation Equipment. Laser Doppler is two years from mandatory replacement unless it is determined to have extended life span. Navigation system replacement, if required, will be tied to ALCM development in this area.

(U) FY98-99 (\$ in Thousands):

- (U) \$0
- (U) \$0 Total

(U) FY 2000 (\$ in Thousands):

- (U) \$688 Research and evaluate ACM components for age sensitivities
- (U) \$688 Total

(U) FY 2001 (\$ in Thousands):

- (U) \$785 Continuing
- (U) \$785 Total

(U) B. Project Change Summary

(U) New program start, based on AF Long Range Plan decision to maintain ACM beyond design life. SLEP studies and evaluation are required to determine other actions on critical components. Without SLEP studies AF will be unable to meet warfighter requirements.

UNCLASSIFIED

RDT&E BUDGET ITEM JUSTIFICATION SHEET (R-2A Exhibit)										DATE February 1999																																																																																																																																																														
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0101120F Advanced Cruise Missile					PROJECT 4798																																																																																																																																																														
<p>(U) C. <u>Other Program Funding Summary (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;"></th> <th style="text-align: center; width: 8%;">FY 1998</th> <th style="text-align: center; width: 8%;">FY 1999</th> <th style="text-align: center; width: 8%;">FY 2000</th> <th style="text-align: center; width: 8%;">FY 2001</th> <th style="text-align: center; width: 8%;">FY 2002</th> <th style="text-align: center; width: 8%;">FY 2003</th> <th style="text-align: center; width: 8%;">FY 2004</th> <th style="text-align: center; width: 8%;">FY 2005</th> <th style="text-align: center; width: 8%;">To Compl</th> <th style="text-align: center; width: 8%;">Total Cost</th> </tr> </thead> <tbody> <tr> <td>(U) Missile Procurement, AF</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td> (U) Aeronautical Vehicle (missile)</td> <td style="text-align: right;">814</td> <td style="text-align: right;">1395</td> <td style="text-align: right;">1050</td> <td style="text-align: right;">2024</td> <td style="text-align: right;">2042</td> <td style="text-align: right;">2061</td> <td style="text-align: right;">2059</td> <td style="text-align: right;">2188</td> <td></td> <td></td> </tr> <tr> <td> (U) Missile Modifications</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">2950</td> <td style="text-align: right;">3435</td> <td style="text-align: right;">3815</td> <td style="text-align: right;">4096</td> <td style="text-align: right;">4384</td> <td style="text-align: right;">4578</td> <td style="text-align: right;">23,258</td> <td style="text-align: right;">23,258</td> </tr> <tr> <td> (U) Replen + Spare Parts</td> <td style="text-align: right;">450</td> <td style="text-align: right;">0</td> <td style="text-align: right;">319</td> <td style="text-align: right;">324</td> <td style="text-align: right;">333</td> <td style="text-align: right;">351</td> <td style="text-align: right;">360</td> <td style="text-align: right;">370</td> <td style="text-align: right;">cont</td> <td style="text-align: right;">cont</td> </tr> <tr> <td> (U) Initial Spares</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">0</td> <td style="text-align: right;">1433</td> <td style="text-align: right;">1594</td> <td style="text-align: right;">2584</td> <td style="text-align: right;">2893</td> <td style="text-align: right;">458</td> <td style="text-align: right;">8,962</td> <td style="text-align: right;">8,962</td> </tr> </tbody> </table> <p>(U) D. <u>Acquisition Strategy:</u> This is a Depot level effort being accomplished at the Prime Contractor facility. The Prime Contractor is Raytheon. Prime Contract number: F34601-96-C-0775, assignment number ACM-EA-99-06-R0-583. The Senor Guidance set is being studied for service life extension and/or referbishing by Boeing Guidance Repair Center. Contract number: F42630-95-D-0686 (FY99 Taskings).</p> <p>(U) E. <u>Schedule Profile</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;"></th> <th colspan="3" style="text-align: center; width: 10%;">FY 1998</th> <th colspan="3" style="text-align: center; width: 10%;">FY 1999</th> <th colspan="3" style="text-align: center; width: 10%;">FY 2000</th> <th colspan="3" style="text-align: center; width: 10%;">FY 2001</th> </tr> <tr> <th></th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> <th style="text-align: center;">1</th> <th style="text-align: center;">2</th> <th style="text-align: center;">3</th> <th style="text-align: center;">4</th> </tr> </thead> <tbody> <tr> <td>(U) Contract Milestones</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td> (U) Service Life Extension Mod</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td style="text-align: center;">X</td> <td></td><td></td><td></td> </tr> <tr> <td>(U) Other Program Events</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td><td></td><td></td> </tr> <tr> <td> (U) Start SLEP Studies</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td style="text-align: center;">X</td> <td></td><td></td><td></td> </tr> <tr> <td> (U) Continue SLEP Phase III (Implementation)</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td> <td style="text-align: center;">X</td> <td></td> </tr> </tbody> </table>													FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Compl	Total Cost	(U) Missile Procurement, AF											(U) Aeronautical Vehicle (missile)	814	1395	1050	2024	2042	2061	2059	2188			(U) Missile Modifications	0	0	2950	3435	3815	4096	4384	4578	23,258	23,258	(U) Replen + Spare Parts	450	0	319	324	333	351	360	370	cont	cont	(U) Initial Spares	0	0	0	1433	1594	2584	2893	458	8,962	8,962		FY 1998			FY 1999			FY 2000			FY 2001				1	2	3	4	1	2	3	4	1	2	3	4	(U) Contract Milestones													(U) Service Life Extension Mod									X				(U) Other Program Events													(U) Start SLEP Studies									X				(U) Continue SLEP Phase III (Implementation)											X	
	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	To Compl	Total Cost																																																																																																																																																														
(U) Missile Procurement, AF																																																																																																																																																																								
(U) Aeronautical Vehicle (missile)	814	1395	1050	2024	2042	2061	2059	2188																																																																																																																																																																
(U) Missile Modifications	0	0	2950	3435	3815	4096	4384	4578	23,258	23,258																																																																																																																																																														
(U) Replen + Spare Parts	450	0	319	324	333	351	360	370	cont	cont																																																																																																																																																														
(U) Initial Spares	0	0	0	1433	1594	2584	2893	458	8,962	8,962																																																																																																																																																														
	FY 1998			FY 1999			FY 2000			FY 2001																																																																																																																																																														
	1	2	3	4	1	2	3	4	1	2	3	4																																																																																																																																																												
(U) Contract Milestones																																																																																																																																																																								
(U) Service Life Extension Mod									X																																																																																																																																																															
(U) Other Program Events																																																																																																																																																																								
(U) Start SLEP Studies									X																																																																																																																																																															
(U) Continue SLEP Phase III (Implementation)											X																																																																																																																																																													
<div style="display: flex; justify-content: space-between;"> Project 4798 Page 8 of 10 Pages Exhibit R-2A (PE 0101120F) </div>																																																																																																																																																																								

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)								DATE February 1999																																																																														
BUDGET ACTIVITY 7 - Operational System Development					PE NUMBER AND TITLE 0101120F Advanced Cruise Missile					PROJECT 4798																																																																												
<p>(U) A. <u>Project Cost Breakdown (\$ in Thousands)</u></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY 1998</u></th> <th style="text-align: center;"><u>FY 1999</u></th> <th style="text-align: center;"><u>FY 2000</u></th> <th style="text-align: center;"><u>FY 2001</u></th> </tr> </thead> <tbody> <tr> <td>(U) Life Extension Study</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">688</td> <td style="text-align: center;">785</td> </tr> <tr> <td>(U) Total</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">688</td> <td style="text-align: center;">785</td> </tr> </tbody> </table> <p>(U) B. <u>Budget Acquisition History and Planning Information (\$ in Thousands)</u></p> <p>Performing Organizations:</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Contractor or Government Performing Activity</th> <th style="text-align: left;">Contract Method/Type or Funding Vehicle</th> <th style="text-align: left;">Award or Obligation Date</th> <th style="text-align: left;">Performing Activity EAC</th> <th style="text-align: left;">Project Office EAC</th> <th style="text-align: center;">Total Prior to <u>FY 1998</u></th> <th style="text-align: center;">Budget <u>FY 1998</u></th> <th style="text-align: center;">Budget <u>FY 1999</u></th> <th style="text-align: center;">Budget <u>FY 2000</u></th> <th style="text-align: center;">Budget <u>FY 2001</u></th> <th style="text-align: center;">Budget to Complete</th> <th style="text-align: center;">Total Program</th> </tr> </thead> <tbody> <tr> <td colspan="12"><u>Product Development Organizations</u> Not Applicable</td> </tr> <tr> <td colspan="12"><u>Support and Management Organizations</u></td> </tr> <tr> <td>OC-ALC</td> <td>MIPR</td> <td></td> <td>TBD</td> <td>TBD</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">688</td> <td style="text-align: center;">785</td> <td style="text-align: center;">Cont</td> <td style="text-align: center;">Cont</td> </tr> <tr> <td colspan="12"><u>Test and Evaluation Organizations</u> Not Applicable</td> </tr> </tbody> </table>													<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	(U) Life Extension Study	0	0	688	785	(U) Total	0	0	688	785	Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to <u>FY 1998</u>	Budget <u>FY 1998</u>	Budget <u>FY 1999</u>	Budget <u>FY 2000</u>	Budget <u>FY 2001</u>	Budget to Complete	Total Program	<u>Product Development Organizations</u> Not Applicable												<u>Support and Management Organizations</u>												OC-ALC	MIPR		TBD	TBD	0	0	0	688	785	Cont	Cont	<u>Test and Evaluation Organizations</u> Not Applicable											
	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>																																																																																		
(U) Life Extension Study	0	0	688	785																																																																																		
(U) Total	0	0	688	785																																																																																		
Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to <u>FY 1998</u>	Budget <u>FY 1998</u>	Budget <u>FY 1999</u>	Budget <u>FY 2000</u>	Budget <u>FY 2001</u>	Budget to Complete	Total Program																																																																											
<u>Product Development Organizations</u> Not Applicable																																																																																						
<u>Support and Management Organizations</u>																																																																																						
OC-ALC	MIPR		TBD	TBD	0	0	0	688	785	Cont	Cont																																																																											
<u>Test and Evaluation Organizations</u> Not Applicable																																																																																						
Project 4798					Page 9 of 10 Pages			Exhibit R-3 (PE 0101120F)																																																																														

UNCLASSIFIED

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)							DATE February 1999			
BUDGET ACTIVITY 7 - Operational System Development				PE NUMBER AND TITLE 0101120F Advanced Cruise Missile			PROJECT 4798			
(U) B. <u>Budget Acquisition History and Planning Information Continued (\$ in Thousands)</u>										
Government Furnished Property:										
Item	Contract Method/Type or Funding	Award or Obligation	Delivery	Total Prior to	Budget	Budget	Budget	Budget	Budget to	Total
<u>Description</u>	<u>Vehicle</u>	<u>Date</u>	<u>Date</u>	<u>FY 1998</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>Complete</u>	<u>Program</u>
<u>Product Development Property</u> Not Applicable										
<u>Support and Management Property</u> Not Applicable										
<u>Test and Evaluation Property</u> Not Applicable										
Subtotal Product Development										
Subtotal Support and Management										
Subtotal Test and Evaluation										
Total Project							688	785		
Project 4798				Page 10 of 10 Pages			Exhibit R-3 (PE 0101120F)			